KEYPORT

MILLENNIA USB Series

Models: USB-8, USB-16

User Manual

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Table of Contents

Introduction
- Overview 1
- Package Content 1
- Features 3

Installation
- PC BIOS Notice 4
- Adhesive Rubber Feet 5
- Console Connection 5
- Computers Connection 6

Operation
- Front Panel Operation 8
- OSD (On-Screen Display) Operation 9
- Hot-Key Commands 14

Cascade Configuration
- Connection 16
- Computer Selection 16

Sun Keyboard Mapping 17

Appendix
- Specifications 18
- Troubleshooting 19

Please read this manual thoroughly and follow the **Installation** procedures to prevent any damage to the KVM or any connecting device.

This device is tested and complies with Part 15 of FCC/class B, CE and VCCI rules.

Introduction

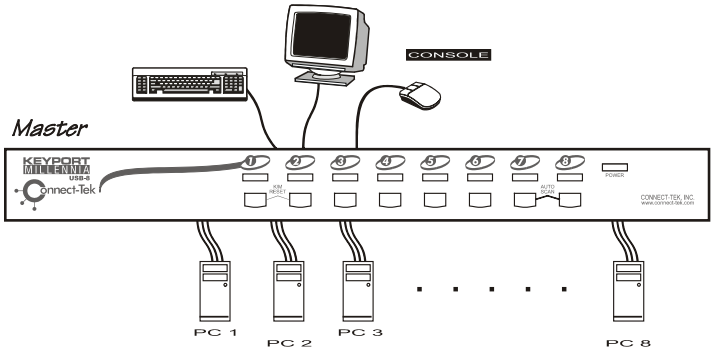
Overview

The hybrid USB and PS/2 KVM switches – ***Millennia USB-8***, and ***USB-16*** extend your computer management to either PS/2 and/or USB models, or both from a single PS/2 console. With the Sync-Emu™ Technology, the advanced, ***USB-8***, and ***USB-16*** are designed to meet the special requirements from USB-ready HP Unit systems and Sun servers. Engineered for servers of the highest level, the ***USB-8***, and ***USB-16*** guarantee flawless switching with zero tolerance.

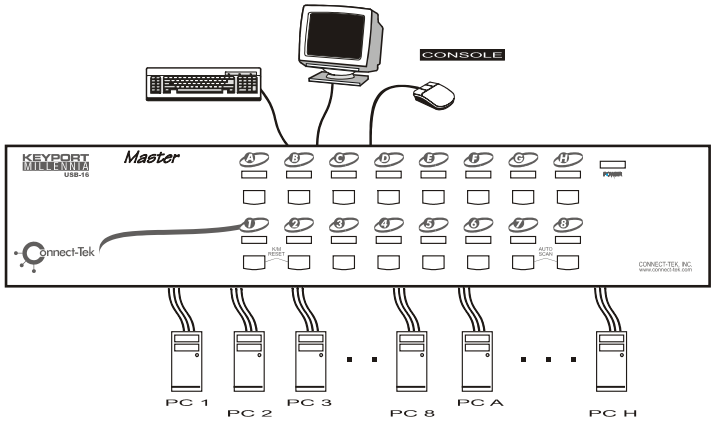
Installation is as easy as connecting USB A-B cables or PS/2 cables in between computers and the USB switch. Selecting a computer is as easy as pressing a front panel button or by entering hotkey commands. The innovative KVM technology ensures smooth switching from one computer to the other and signal conversion from PS/2 to USB. No more tangled cables and a messy working environment; let the USB switches do the computer switching for you.

Package Content

- KVM switch x 1
- Power Adapter x 1
- Rubber feet x 1 set
- Bracket x 2 (optional)
- User's Manual x 1
- PS/2 Y-Adapter x 8/12 for 8/16-port model



8-port KVM Switch configuration



16-port KVM Switch configuration

Features

- Manage from 8 to 16 USB-enabled PCs, iMacs from one PS/2 keyboard, one mouse, and one monitor.
- For computers with USB or PS/2 interface.
- Front panel push-buttons for easy computer selection.
- Supports keyboard and mouse Plug-and-Play.
- Buzzer sound for computer switching confirmation.
- High VGA resolution up to 1920x1440.
- Activate Auto Scan by pressing front buttons.
- USB specification compliant.
- Supports the latest DDC2B VGA monitor.
- OSD menu for server naming and selection.
- Supports USB-ready HP Unix and Sun servers.

---------- *Installation*

PC BIOS Notice

*The following BIOS setup changes are necessary for PC users using USB and **not** necessary for Mac users:*

1. In STANDARD CMOS, set HALT ON ERROR to ALL BUT KEYBOARD.
2. In PNP AND PCI SETUP, set PNP OS INSTALLED to YES and set USB IRQ to ENABLED.

3. For newer computers: in INTEGRATED PERIPHERALS, set USB CONTROLLER and KEYBOARD SUPPORT to ENABLED.

Also, make sure USB is properly selected in Device Manager under Control Panel, as shown in Figure 1.

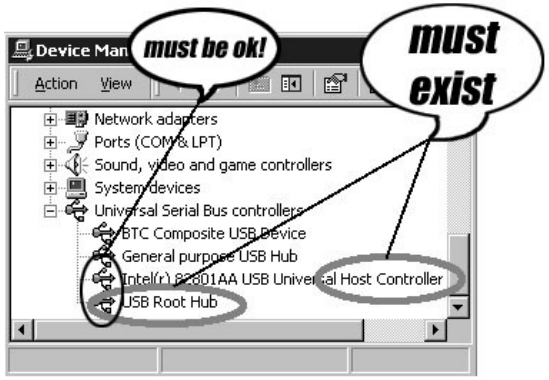


Figure 1: PC BIOS Notice

Note: Certain computers accept neither plug-and-play nor USB hub, the OSD models deal with it by the advanced Sync-Emu™ Technology emulating USB devices at all ports individually.

Adhesive Rubber Feet

For the desktop operation, you may stick the four round rubber feet (supplied with the unit) to the bottom of the USB KVM. NOTE: Give the rubber feet a firm press to the enclosure when applying them. Do not use the rubber feet for rack mount operation.

Console Connection

Before installation, make sure all devices and computers to be connected to the KVM switch have been turned off.

Plug a monitor to the Console's **VGA** port; connect a PS/2 mouse and a keyboard to the **CONSOLE** port marked with a mouse and a keyboard as shown in Figure 2.

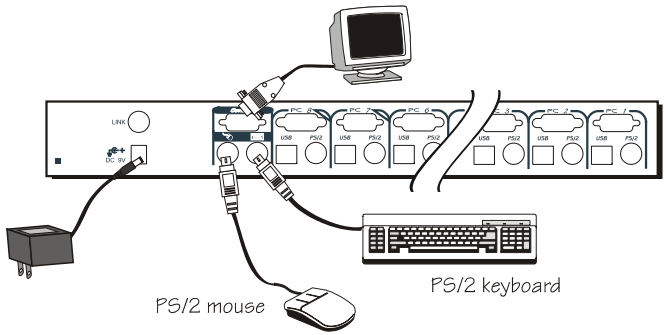


Figure 2: Console Connection

Computer Connections

Use a HDB15 male-to-female cable to connect from a computer's VGA output to VGA port of **PC** side, as shown in Figure 3, Figure 4, and Figure 5.

● *For a USB computer:* Use a USB A-B cable to connect from one of the **PC** ports to the USB port on the corresponding computer (A connector, flat connector), as shown in Figure 3.

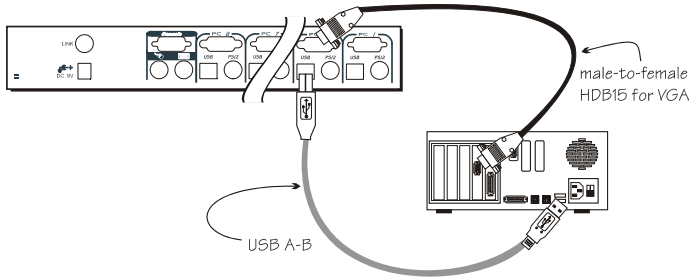


Figure 3: Computer USB Port Connection

● *For a PS/2 computer:* Connect a "*PS/2 Y-adapter*", that comes with the unit, to the **PS/2** port at **PC** side, then use two mini-DIN6 male-to-male cables for keyboard and mouse, see Figure 4. There are two mini-DIN6 female connectors on the "*PS/2 Y-adapter*" marked with keyboard and mouse, be sure not to swap the connections.

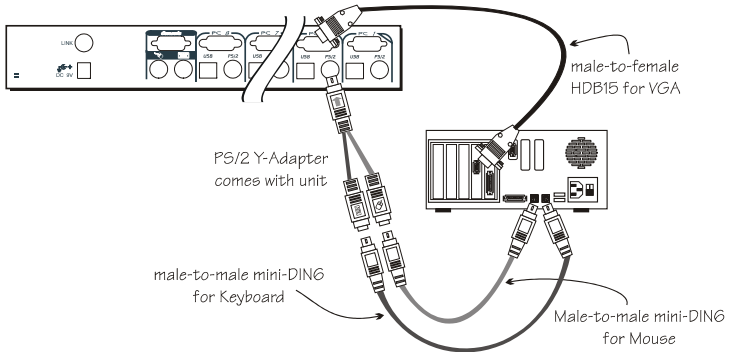


Figure 4: Computer PS/2 Port Connection

● *For a Laptop computer:* In most cases, all you need is one PS/2 male-to-male cable connected between the KVM switch and your Notebook; the Y-adapter is not necessary. However, some Laptop computers do not follow industry standard, please check your Laptop user's manual for details.

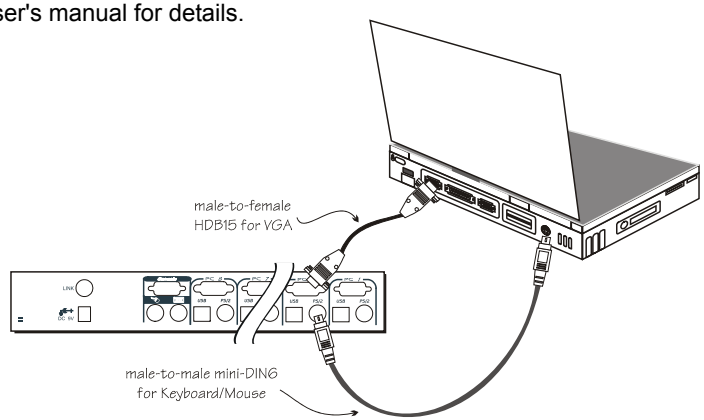


Figure 5: Laptop PS/2 Port Connection

Now, you can turn on all devices and computers.

Note: Do not connect both PS/2 and USB ports of *one* **PC** port on the KVM to a computer, this will cause only the PS/2 port to be effective.

---------- *Operation*

Front Panel

■ **On-line LED & Selected LED**

When the LED turns green, the connected computer is powered-on. When a computer is selected, its corresponding red LED illuminates.

■ **Push-buttons**

Each computer has a button associated with it on the front panel for selection.

■ **K/M RESET**

K/M RESET solves most problems developed by keyboard, mouse, device replacement or change of configuration. Press down both the front-panel number **1** and **2** push buttons for 2 seconds to re-configure the whole system without turning either the USB KVM switch or any computer off.

■ **AUTO SCAN**

Auto Scan automatically scans through computers one by one in a fixed interval (see *Scan Time* below). To initiate *Auto Scan*ning for ***USB-8*** and ***USB-16***, press **7** and **8.**

OSD (On-Screen-Display) Operation

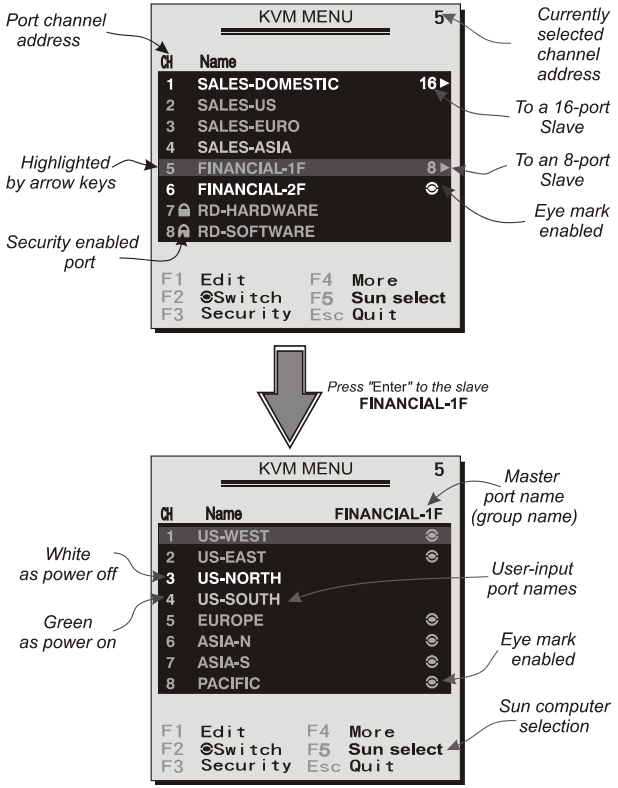


Figure 6: OSD screen illustration

By hitting the *left* **Ctrl** key twice within two seconds, you may see the '**Hotkey Menu**' if it is enabled (an OSD option). Or, by hitting the *left* **Ctrl** key three times within two seconds, you will see a '**KVM MENU**' screen showing a list of the computers with corresponding port numbers, names and status, see Figure 6.

The port number of the currently selected computer is displayed in red, same as the front indicator, at the right corner of the OSD menu.

The color of a device name is green if it has power and is ready for operation, or the color is white, if it has no power. OSD menu updates the color when it is activated. The **PageUp** and **PageDown** keys can be used to view 8 other computers at a time, with ***USB-8***, for example.

For example, with the ***USB-16***, use the " ↑ ", " ↓ ", " **1** " ~ " **8** ", or " **A** " ~ " **H** " to highlight a computer and then press the **Enter** key to select it. Or, you may press the **Esc** key to exit OSD and remove the OSD menu from the display; the status window returns to the display and indicates the currently selected computer or operating status. A triangle mark (▸) to the right of a name indicates the port is cascaded to a *Slave*; the number at the left of the triangle mark shows the number of ports the *Slave* has, i.e. **8** ▸ for an 8-port switch. The **Enter** key brings you one level down and another screen pops up listing the names of the computers on that *Slave*. The name of the *Slave* will be shown at the upper right corner of the OSD menu. It is useful to group computers and still be able to see the group name.

An eye mark (👁) to the right of a name indicating the computer is selected to be monitored in Scan mode. In OSD, this mark can be switched on or off by the function key .

Press the **Esc** key to exit OSD and to return to the selected computer; the computer name is also shown on the screen.

● Function key **F1** **:** To edit name entry of a computer or a *Slave* with up to 14 characters. First, highlight a port then press **F1** followed by name entry. Valid characters are 'A'~'Z', '0'~'9' and the dash character. Lowercase letters are converted to uppercase ones. Press **Backspace** to delete a letter one at a time. Non-volatile memory stores all name entries until you change, even if the unit is powered down.

● Function key **F2** : To switch the eye mark (👁) of a computer on or off. First, use the **UP** and **DOWN** arrow keys to highlight it, then press **F2** to switch its eye mark on or off. If *Scan Type* is '**Ready PC +👁**', only the power-on and eye mark selected computers will be displayed sequentially in Scan mode.

● Function key **F3** : To lock a computer from unauthorized access. To lock a device, highlight it then press **F3** . Now, enter up to 4 characters ('A'~'Z', '0'~'9, '-') followed by **Enter** as new password. A Security-enabled device is marked with a lock (🔒) following its port number. To permanently disable the security function from a locked device, highlight it, press **F3** then enter the password.

If you want to access the locked device temporarily, simply highlight it and press **Enter** , the OSD will ask you for the password. After entering the correct password, you are allowed to use the device. This device is automatically re-locked once you switch to another port. During Scan mode, OSD skips the password-protected ports.

If you forget the password, the only way to permanently erase all the passwords is to:
For USB-8 and USB-16, press and hold the front panel buttons "1" and "2", then hold "7" and "8". Release "7" and "8", then release "1" and "2".

● Function key **F4** : More functions are available by hitting **F4** . A new screen pops up displaying more functions as described below. Most of them are marked with a triangle (▸) indicating there are options to choose from. Using the **UP** and **DOWN** arrow keys, select the functions and press **Enter** . Available options will be shown in the middle of the screen. Again, using the **UP** and **DOWN** arrow keys to view options then press **Enter** to select it. You can press **Esc** to exit at any time.

■ *Auto Scan*
In this mode, the USB KVM automatically switches from one powered-on computer to the next sequentially in a fixed interval. During *Auto Scan* mode, the OSD displays the name of the selected computer. When *Auto Scan* detects any keyboard or mouse activity, it suspends the scanning until activity stops; it then resumes with the next computer in sequence. To abort the *Auto Scan* mode, press the left **Ctrl** twice, or, press any front button. *Scan Type* and *Scan Rate* set the scan pattern. *Scan Type* (**F4** :

More\Scan Type) determines if scanned computers must also be eye mark selected. *Scan Rate* (**F4** : More\Scan Rate) sets the display interval when a computer is selected before selecting the next one.

■ *Manual Scan*

Scan through powered-on computers one by one by keyboard control. Type (**F4** : More\Scan Type) determines if scanned computers must also be eye mark selected. Press the up arrow key ↑ to select the previous computer and the down arrow key ↓ to select the next computer. Press any other key to abort the Manual Scan mode.

■ *Scan Type*

Ready PC +👁: In Scan mode, scan through power-on and eye mark selected computers.

Ready PC: In Scan mode, scan through power-on computers.

👁 **Only**: In Scan mode, scan through any 👁 selected computer regardless of computer power status.
The non-volatile memory stores the *Scan Type* setting.

■ *Scan Rate*

Sets the duration of a computer displayed in *Auto Scan* mode. The options are **3 seconds, 8 seconds, 15 seconds and 30 seconds**. The non-volatile memory stores the *Scan Rate* setting.

■ *Keyboard Speed*

USB KVM offers keyboard typematic setting that overrides the similar settings in BIOS and in Windows. Available speed options are **Low**, **Middle**, **Fast** and **Faster** as 10, 15, 20 and 30 characters/sec respectively. The non-volatile memory stores the Keyboard Speed Setting.

■ *Audio Stick*

An optional multimedia module can be linked to the back of each KVM switch for selecting microphone and stereo speaker signals. There are two options for *Audio Stick*: **ON** and **Off**. When set to '**On**', audio selection follows computer selection. When set to '**Off**', audio selection stops following computer selection. It is useful if you want to listen to a particular computer's audio signal while operating other computers. The non-volatile memory stores the *Audio Stick* setting.

■ *Hotkey Menu*

When you hit the *left* **Ctrl** key twice within two seconds, the "Hotkey Menu" appears displaying a list of hot-key commands if the option is **On**. The 'Hotkey Menu' can be turned **Off** if you prefer not to see it when the *left* **Ctrl** key is hit twice. The non-volatile memory stores the Hotkey Menu setting.

■ *CH Display*

Auto Off: After you select a computer, the port number and name of the computer will appear on the screen for 3 seconds then disappear automatically. **Always On**: The port number and name of a selected computer and/or OSD status displayed on the screen all the time. The non-volatile memory stores the CH Display setting.

■ *Position*

The position of the selected computer name and/or OSD status displayed on screen during operation. The actual display position shifts due to different VGA resolution, the higher the resolution the higher the display position. The non-volatile memory stores the Position setting.

Upper Left, **Upper Right**, **Middle**.
Lower Left, **Lower Right**.

■ *Country Code for Sun*

Sun keyboards of different languages have different layouts. The KVM switch is able to emulate a Sun keyboard for a

specific language type or country such as **Arabic**, **Belgian**, **US**, **Yugoslavia, and so forth**. Select the proper country code that matches ***ALL*** of your Sun computers.

● Function key **F5** : To switch the **Sun** mark of a port **on** or **off** indicating the computer is a Sun server. Sun servers have more keys on the keyboard than a PC. When a **Sun**-marked port is selected, the KVM switch starts to translate the keys from a PS/2 keyboard to a Sun keyboard. See *Sun Keyboard Mapping* for details.

● **Esc** : To exit the OSD, press the **Esc** key.

Hot-key commands

A Hot-key command is a short keyboard sequence to select a computer, to activate computer scan, and so forth. The USB KVM switch interprets keystrokes for hot-keys all the time. A hot-key sequence starts with two *left* **Ctrl** keystrokes followed by one or two more keystrokes. A built-in buzzer generates a high-pitched beep for the correct hot-key command; one low-pitched beep signals for error and the bad key sequence and will not be forwarded to the selected computer.

L-CTRL: is the **Ctrl** key located at the left side of the keyboard.
1~8: are the number keys '1' ~ '8' at the upper row of the keyboard. *Do not use the keypad at the right of the keyboard.*
A~H: represents from Port 9 to Port 16

■ To select a computer by hot-key command, you must know its port address, which is determined by the KVM port connection at the back. For example:
left **Ctrl** + *left* **Ctrl** + **4**
Selects a computer connected to the **PC** port 4.

■ To start *Auto Scan*, automatically scan powered-on computers one by one at a fixed interval:
left **Ctrl** + *left* **Ctrl** + **F1**

When *Auto Scan* detects any keyboard or mouse activity, it suspends the scanning until activity stops; it then resumes with the next computer in sequence. The length of the *Auto Scan* interval (*Scan Rate)* is adjustable, please see below. To abort the *Auto Scan* mode, press the *left* **Ctrl** key twice.

■ *Manual Scan* enables you to manually switch back and forth between power-on computers.
left **Ctrl** + *left* **Ctrl** + **F2**

Press ↑ or ↓ to select the previous or the next computer in sequence. And, press any other key to abort the *Manual Scan*.

■ To adjust *Scan Rate* which sets the duration before switching to the next computer in *Auto Scan*:
left **Ctrl** + *left* **Ctrl** + **F3**
The USB KVM sends one to four beeps indicating scan interval of ***3***, ***8***, ***15*** and ***30*** seconds respectively.

■ To adjust keyboard typematic rate (characters/sec), this setting over-rides that of BIOS and any operating system:
left **Ctrl** + *left* **Ctrl** + **F4**
The USB KVM generates 1 to 4 beeps corresponding to ***10***, ***15***, ***20*** and ***30*** characters/sec respectively.

Cascade Configuration

Connection

Before connecting a device (a computer or another USB product) to the master under power, you must turn off the device. Only PS/2 port is operable for cascade operation, see Figure 7 for details.

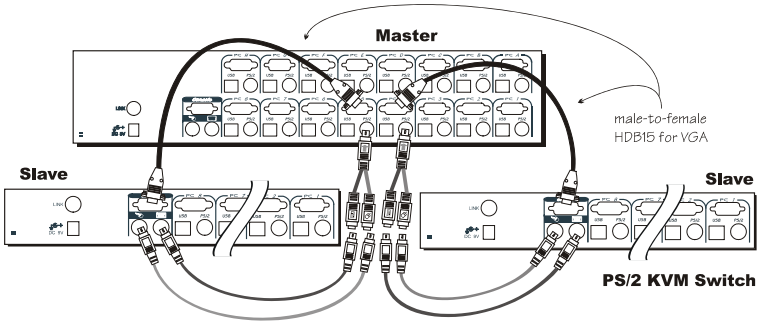


Figure 7: Cascade Connection

Note: The Master must have equal or more 'PC x' ports than that of the slave, i.e., if an 8-port switch is the Master, an 8-port or 4-port switch can be a Slave, but not a 16-port one. PS/2-only models can be cascaded with USB-PS/2 universal models.

Computer Selection by Hot-Key Command

The first digit is the port address of the *Master* unit (1~8,) and the second digit is the port address of the *Slave* (1~8,A~H). Please note that only *Master's* PS/2 ports can be connected to a *Slave's* **CONSOLE** *port*.

left **Ctrl** + *left* **Ctrl** + **1** + **3**

Selects a computer connected to PS/2 or USB port **3** of a *Slave* connected to PS/2 port **1** of the *Master*.

Sun Keyboard Mapping

The OSD models emulate a Sun's keyboard and mouse when a computer is marked with a **Sun** in OSD menu by Function key **F5** . A Sun keyboard has more keys than a standard PS/2 one. These extra keys are simulated by tapping the *lower-right* **Ctrl** followed by one of the function keys on a PS/2 keyboard (i.e. combo key). For instance, tap the *lower-right* **Ctrl** key, then tap the function key **F7** to activate **Open** for a Sun computer.

PS/2 keyboard	Sun keyboard
right - **Ctrl** **1**	
right - **Ctrl** **2**	
right - **Ctrl** **3**	
right - **Ctrl** **4**	note
right - **Ctrl** **F1**	**Stop**
right - **Ctrl** **F2**	**Again**
right - **Ctrl** **F3**	**Props**
right - **Ctrl** **F4**	**Undo**
right - **Ctrl** **F5**	**Front**
right - **Ctrl** **F6**	**Copy**
right - **Ctrl** **F7**	**Open**
right - **Ctrl** **F8**	**Paste**
right - **Ctrl** **F9**	**Find**
right - **Ctrl** **F10**	**Cut**
right - **Ctrl** **H**	**Help**
right -	*right* - ♦
left -	*left* - ♦
	Compose
right - **Alt**	**Alt Graph**
left - **Alt**	**Alt**

Appendix

Specifications

Specification	USB-8	
No. of computers supported	*8*	*16*
Front panel push button	*8*	*16*
Hot plug-and-play	*Yes*	
Hot-key Control	*Yes*	
On-screen display (OSD)	*Yes*	
Sync-Emu Technology	*Yes*	
Automatic scan interval	*3, 8, 15, 30 seconds*	
Cable Length (Max)	*30M(100ft) for VGA* *5M(15ft) for USB* *30M(90ft) for PS/2*	
Computer ON-LINE LED	*8*	*16*
Computer selected LED	*8*	*16*
VGA	*1920 X 1440, DDC2B*	
Computer peripheral connector monitor	*USB Type B x8, PS/2 x 8* *HDB-15 male x 8*	*USB Type Bx16, PS/2 x 16* *HDB-15 male x 16*
Console peripheral connector monitor	*PS/2 x 2* *HDB-15 female x 1*	
Weight (g) (oz)	*2400* *84.66*	*3700* *130.5*
H x W x D (mm) (in)	*44 x 436 x 180* *1.75 x 17.25 x 7.0*	*88 x 436 x 220* *3.5 x 17.25 x 8.7*
	1U	*2U*

Troubleshooting

*Ensure that all cables are well seated. Label the cable for each computer to avoid confusion when connected to the **USB-8**, and **USB-16**.*

Symptom	*Causes*	*Solutions*
● Keyboard or mouse does not work.	● In Auto Scan, computers using USB keyboard and mouse are not operable. ● Too many keyboard or mouse drivers installed in one computer.	● Press any front button to select a computer, then use the keyboard and mouse. ● Remove ALL unnecessary keyboard and mouse drivers.
● Keyboard or mouse does not work after switching to a different USB computer.	● The USB computer does not support plug-and-play as specified by USB standard.	● Update that computer's USB driver. Device hot plug-and-play is one of the basic USB specifications. OSD models is better suited for this environment
● Computer hangs up while switching computer.	● USB computer initialization takes too much time.	● Wait at least 5 seconds before switching from one USB computer to another to ensure proper USB communication.
● Auto Scan does not switch PC automatically and the switch beeps.	● All PCs are off or only one PC is turned on. Scan mode works for power-on computers only.	● Turn computers on.
● Unable to control a Sun server or a HP Unix system.	● The server does not support USB plug-and-play or USB hub.	● The Sync-Emu™ technology of OSD models solves this problem.
● Unable to control a Sun server while using OSD models.	● Sun mark is not tagged in OSD menu.	● Make sure each Sun server is tagged with a **Sun** mark in the OSD menu by Function key **F5**.

SUN KEYBOARD MAPPING

PS/2 keyboard	Sun keyboard
right - **Ctrl** **1**	
right - **Ctrl** **2**	
right - **Ctrl** **3**	
right - **Ctrl** **4**	note
right - **Ctrl** **F1**	**Stop**
right - **Ctrl** **F2**	**Again**
right - **Ctrl** **F3**	**Props**
right - **Ctrl** **F4**	**Undo**
right - **Ctrl** **F5**	**Front**
right - **Ctrl** **F6**	**Copy**
right - **Ctrl** **F7**	**Open**
right - **Ctrl** **F8**	**Paste**
right - **Ctrl** **F9**	**Find**
right - **Ctrl** **F10**	**Cut**
right - **Ctrl** **H**	**Help**
right -	*right* - ♦
left -	*left* - ♦
	Compose
right - **Alt**	**Alt Graph**
left - **Alt**	**Alt**

Technical Support:

FOR TECHNICAL SUPPORT OF ANY KIND, PLEASE CONTACT A FACTORY REPRESENTATIVE BY CALLING (718) 729-3700, PHONE SUPPORT HOURS ARE 9:00 – 5:00 EST. EMAIL TO: sales@connect-tek.com

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